

Kindly cancel claims 16, 17, 31, 40, 55, 56, 59, 73 and 113-126 for prosecution in a division.

Please amend the claims as follows:

74. (Amended) A method of identifying a peptide with a predicted indicia of an activity that satisfies a test requirement, comprising the steps of:

determining a first indicia of an activity of a plurality of first test peptides from a first test peptide library, wherein the plurality of first peptides is selected using a space-filling technique;

determining a relationship between the first indicia of the activity and at least one whole molecule parameter of the plurality of first test peptides, wherein the length of said test peptides comprises no greater than twenty amino acids;

determining a test requirement relating to the measured first indicia; and

identifying at least one peptide from a second peptide library containing a plurality of second peptides which based on said relationship, are expected to provide an indicia of activity that satisfies said test requirement.

77. (Amended) The method of claim 76, wherein said step of determining a test requirement comprises:

quantifying or qualifying the range of an indicia of an activity,

wherein for said activity, the quantified or qualified indicia is greater than the indicia of the first library or less than the indicia of the first library.

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78. (Amended) The method of claim 77, wherein said identifying step further comprises:

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determining which of the estimated indicia satisfy the quantified or qualified range of the indicia; and

determining from the estimated indicia that satisfy said range, at least one peptide from the plurality of second peptides comprising the second peptide library.

80. (Amended) The method of claim 74, wherein said step of determining a relationship comprises the step of:

Sub 12
determining a distance function $d(x_1, x_2)$ between a first value of a whole molecule parameter, x_1 , of a first test peptide and a second value of the whole molecule parameter, x_2 , of a second peptide not within the first peptide library; and

AB
estimating the indicia of activity of the second peptide as the indicia of the activity of the first peptide if $d(x_1, x_2) \leq d_{\text{cutoff}}$, where d_{cutoff} is a cutoff distance for the first test peptide.

81. (Amended) The method of claim 74, wherein said measuring step is preceded

Sub 12
by the step of defining a first test peptide library by representing each of a plurality of groups of peptides as isomers from a first peptide space as a respective candidate peptide.